



we protect your digital worlds

ESET Mail Security

*Installation Manual
and User's documentation*

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includes PHP software, freely available
from <http://www.php.net/software/>.
ESET Mail Security was developed in
co-operation with ProWeb Consulting.
For more information visit www.pwc.sk.

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Chapter 1:

Introduction



Dear user, you have acquired ESET Mail Security - probably the best security system running under the Linux/BSD/Solaris OS. As you will soon find out, the system using the state-of-the-art ESET scanning engine, has unsurpassed scanning speed and detection rate, combined with a very small footprint that makes it the ideal choice for any Linux/BSD/Solaris OS server.

In the rest of this chapter we review a key features of the system.

- The ESET anti-virus scanning engine algorithms provide the highest detection rate and the fastest scanning times.
- The ESET Mail Security is developed to run on the single-processor as well as on the multi-processor units.
- It includes unique advanced heuristics for Win32 worms and back-doors.
- Inbuilt archivers unpack archived objects without the need for any external programs.
- In order to increase speed and efficiency of the system, its architecture is based on the running daemon (resident program) where all the scanning requests are sent to.
- All executive daemons (except `esets_dac`) run under non-privileged user account to enhance security.
- The system supports selective configuration specific for user or client/server identification.
- Six logging levels can be configured to get information about system activity and infiltrations.
- The ESET Mail Security installation does not require external libraries or programs except for LIBC.
- The system can be configured to notify any person in case of detected infiltration.
- Configuration, administration and license management can be provided using intuitive and user friendly World Wide Web Interface.
- The system supports ESET Remote Administration for management in large computer networks.
- The system contains anti-spam control mechanism.
- Information about infiltration can be configured to be written into an e-mail header, footer and subject.

To run efficiently, ESET Mail Security requires just 16MB of hard-disk space and 32MB of RAM. It works smoothly under the 2.2.x, 2.4.x and 2.6.x Linux OS kernel versions and also under 5.x, 6.x FreeBSD OS kernel versions.

From lower-powered, small office servers to enterprise-class ISP servers with thousands of users, the system delivers the performance and scalability you expect from a UNIX based solution and the unequalled security of ESET products.



Chapter 2:

Terminology and abbreviations



In the following text we review terms and abbreviations used in this documentation. Note that in this documentation (PDF format only) a boldface font is reserved for product components names and in this chapter also for newly defined terms and abbreviations. Note also that terms and abbreviations defined in this chapter are emphasized later in this documentation (PDF format only).

ESETS

ESET Security is a common acronym for all security products developed by ESET, spol. s r.o. for Linux OS, BSD OS and Solaris. It is also the name (or its part) of the software package containing the products.

RSR

Abbreviation of 'RedHat/Novell(SuSE) Ready'. Note that we support also so called RedHat Ready and Novell(SuSE) Ready variation of the product. The difference from the "standard" Linux version is that the *RSR* package meets criteria defined by FHS (File-system Hierarchy Standard defined as a part of Linux Standard Base) document required by the RedHat Ready and Novell(SuSE) Ready certificate. This means for instance that the *RSR* package is installed as an add-on application, i.e. the primary installation directory is '/opt/eset/esets'.

ESETS daemon

Main *ESETS* system control and scanning daemon **esets_daemon**.

ESETS base directory

The directory where *ESETS* loadable modules containing for instance virus signatures database are stored. Further in this documentation we use abbreviation **@BASEDIR@** for the directory. The directory location is as follows:

```
Linux: /var/lib/esets
Linux RSR: /var/opt/eset/esets/lib
FreeBSD: /var/lib/esets
NetBSD: /var/lib/esets
Solaris: /var/opt/esets/lib
```

ESETS configuration directory

A directory where all files related with the ESET File Security configuration are stored. Further in this documentation we use abbreviation **@ETCDIR@** for the directory. The directory location is as follows:

```
Linux: /etc/esets
Linux RSR: /etc/opt/eset/esets
FreeBSD: /usr/local/etc/esets
NetBSD: /usr/pkg/etc/esets
Solaris: /etc/opt/esets
```

ESETS configuration file

Main ESET File Security configuration file. The absolute path of the file is as follows:

```
@ETCDIR@/esets.cfg
```

ESETS binary files directory

The directory where the relevant ESET File Security binary files are stored. Further in this

documentation we use abbreviation **@BINDIR@** for the directory. The directory location is as follows:

```
Linux: /usr/bin
Linux RSR: /opt/eset/esets/bin
FreeBSD: /usr/local/bin
NetBSD: /usr/pkg/bin
Solaris: /opt/esets/bin
```

ESETS system binary files directory

The directory where the relevant ESET File Security system binary files are stored. Further in this documentation we use abbreviation **@SBINDIR@** for the directory. The directory location is as follows:

```
Linux: /usr/sbin
Linux RSR: /opt/eset/esets/sbin
FreeBSD: /usr/local/sbin
NetBSD: /usr/pkg/sbin
Solaris: /opt/esets/sbin
```

ESETS object files directory

The directory where the relevant ESET File Security object files and libraries are stored. Further in this documentation we use abbreviation **@LIBDIR@** for the directory. The directory location is as follows:

```
Linux: /usr/lib/esets
Linux RSR: /opt/eset/esets/lib
FreeBSD: /usr/local/lib/esets
NetBSD: /usr/pkg/lib/esets
Solaris: /opt/esets/lib
```





Chapter 3:

Installation



This product is distributed as a binary file:

```
esets.i386.ext.bin
```

where 'ext' is a Linux/BSD/Solaris OS distribution dependent suffix, i.e. 'deb' for Debian, 'rpm' for RedHat and SuSE, 'tgz' for other Linux OS distributions, 'fbs5.tgz' for FreeBSD 5.xx, 'fbs6.tgz' for FreeBSD 6.xx, 'nbs4.tgz' for NetBSD 4.xx and 'sol10.pkg.gz' for Solaris 10.

Note that the Linux *RSR* binary file format is:

```
esets-rsr.i386.rpm.bin
```

In order to install or update the product, use statement:

```
sh ./esets.i386.ext.bin
```

resp. for Linux *RSR* variation of the product, use statement:

```
sh ./esets-rsr.i386.rpm.bin
```

As a result the product's User License Acceptance Agreement is shown. Once you have confirmed the Acceptance Agreement, the installation package is placed into the current working directory and relevant information regarding the package's installation, un-installation or update is printed into terminal.

Once the package is installed and the main *ESETs* service is running, in Linux OS you can check its operation by using command:

```
ps -C esets_daemon
```

In case of BSD OS you can use a command:

```
ps -ax | grep esets_daemon
```

In case of Solaris you can use a command:

```
ps -A | grep esets_daemon
```

You will see the following (or similar) message on return:

PID	TTY	TIME	CMD
2226	?	00:00:00	esets_daemon
2229	?	00:00:00	esets_daemon

where at least two *ESETs daemon* processes running in the background have to be present. One of the processes is so-called process and threads manager of the system. The other serves as *ESETs* scanning process.



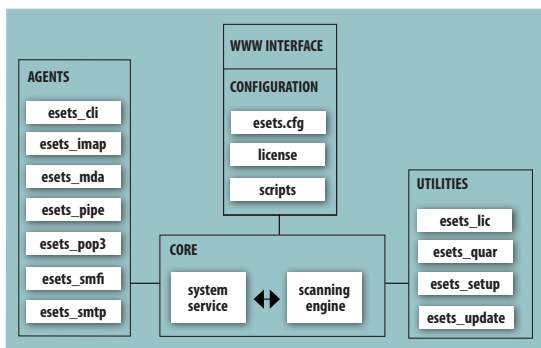
Chapter 4:

Product's Roadmap



Once the product package has been successfully installed, it is time to become familiar with its content.

Figure 4-1. Structure of ESET Mail Security.



The structure of ESET Mail Security is shown in the figure 4-1. The system is composed of the following components.

CORE

Core of ESET Mail Security consists of ESETS daemon `esets_daemon`. The daemon uses ESETS API library `libesets.so` and ESETS loading modules `em00X_xx.dat` to provide base system tasks: scanning, maintenance of the agent daemon processes, maintenance of the samples submission system, logging, notification, etc.. Please refer to `esets_daemon(8)` manual page for details.

AGENTS

The purpose of ESETS agent modules is to integrate ESETS with the Linux/BSD/Solaris Server environment. Please note a special chapter in this document devoted to the topic.

UTILITIES

The utility modules are particular fraction of the system. They are developed to provide simple and effective management of the system. They are responsible for relevant system tasks, e.g. license management, quarantine management, system setup and update. Please note a special chapter in this document devoted to the topic.

CONFIGURATION

The utility modules are particular fraction of the system. They are developed to provide simple and effective management of the system. They are responsible for relevant system tasks, e.g. license management, quarantine management, system setup and update. Please note a special chapter in this document devoted to the topic.

After the product is successfully installed, all its configuration components are stored in ESETS configuration directory. The directory consists of the following files.

@ETCDIR@/esets.cfg

This is the most important configuration file as it maintains the major part of the product functionality. After exploring the file you can see that it is built from various parameters distributed within sections. Note the section names always enclosed in square brackets. In the ESETS configuration file there is always one global and several so-called agent sections. Parameters in global section are used to define configuration options of ESETS daemon as well as default values of ESETS scanning engine configuration options. Parameters in agent sections are used to define configuration options of so-called agents, i.e. modules used to intercept various data flow types in the computer and/or its neighborhood and prepare this data for scanning. Note that besides the number of parameters used for the system configuration, there is also a number of rules determining organization of the file. To become familiar with this knowledge, please refer to esets.cfg(5), esets_daemon(8) manual page and also to manual pages related to relevant agents.

@ETCDIR@/certs

This directory is used to store the certificates used by ESETS WWW Interface for authentication (see esets_wwwi(8) for details).

@ETCDIR@/license

This directory is used to store the product(s) license key(s) you have acquired from your vendor. Note that the ESETS daemon will always check only this directory to evaluate license key validity unless it is redefined by ESETS configuration file parameter 'license_dir'.

@ETCDIR@/scripts/license_warning_script

This script, if enabled by ESETS configuration file parameter 'license_warn_enabled', is executed since 30 days (once per day) before product license expiration. It is used to send e-mail notification about the expiration status to system administrator.

@ETCDIR@/scripts/daemon_notification_script

This script, if enabled by ESETS configuration file parameter 'exec_script', is executed in case the infiltration has been detected by the anti-virus system. It is used to send e-mail notification about the event to system administrator.

@ETCDIR@/anti-spam

This directory contains configuration file used to fine tune the anti-spam engine operation.

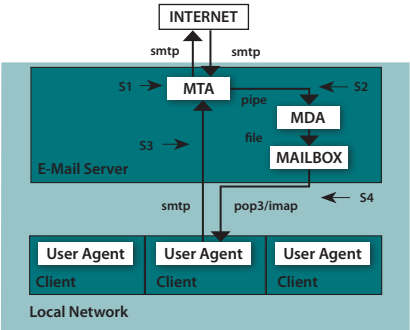


Chapter 5:

Integration with E-mail Messaging System

This chapter describes integration of the ESET Mail Security with the variety of known e-mail messaging systems. Knowledge of e-mail messaging system basic principles (figure 5-1) is of paramount importance for understanding of ESETS operation.

Figure 5-1. Scheme of UNIX OS e-mail messaging system.



MTA - Mail Transport Agent

A program (for instance sendmail, postfix, qmail, exim, etc.) providing e-mail messages transfer among local and remote domains.

MDA - Mail Delivery Agent

A program (for instance maildrop, procmail, deliver, local.mail, etc.) providing delivery of locally addressed e-mail messages into particular mailboxes.

MUA - Mail User Agent

A program (for instance MS Outlook, Mozilla Mail, Eudora, etc.) providing access and management of e-mail messages, i.e. reading, composing, printing etc., stored in mailboxes.

MAILBOX

A file or a file structure on a disk serving as the storage space for e-mail messages. Note that there are several formats of MAILBOX in Linux/BSD/Solaris OS: an old fashioned format where e-mails for each user are stored sequentially in one user appropriate file located in directory '/var/spool/mail'; MBOX (a bit newer but still an old format) with e-mails stored sequentially in one file located within user home directory; MAILDIR with e-mails stored in a separate files within a hierarchical directory structure.

The e-mail server receives data communication typically using SMTP - Simple Mail Transfer Protocol communication. The received message is transferred by MTA either to another remote e-mail messaging system or it is delivered using local MDA into particular MAILBOX (we assume each local network user owns a MAILBOX located at the server disk). Note that it is responsibility of the user's local MUA to provide download and correct interpretation of the message at the user's computer. When retrieving data from MAILBOX the MUA uses typically POP3 - Post Office

Protocol or IMAP - Internet Message Access Protocol to communicate with the MTA. To send data to the Internet the SMTP protocol communication is used.

The *ESETS* operating principle is based on data communication interception and scanning at the various phases of its transfer. The interception locations are marked in the figure 4-1 by symbols S1, S2, S3 and S4.

S1

Bi-directional e-mail messages scanning, i.e. content filtering in MTA.

S2

Scanning of inbound e-mail messages, i.e. messages with the target address corresponding to the destination located inside the local domain.

S3

Scanning of outbound e-mail messages, i.e. messages bound to some remote Internet domain via its target address.

S4

Scanning of e-mail messages being downloaded from POP3/IMAP server.

The rest of this chapter reviews methods of integration of *ESETS* with variety of supported messaging systems.

5.1. Bi-directional e-mail messages scanning in MTA

The advantage of bi-directional e-mail messages scanning mode is that it allows one to scan e-mails inbound as well as outbound in the same implementation algorithm. On the other hand the bi-directional (content filter) method is MTA dependent. The ESET comes with four content filters built for most common MTA, i.e. MTA Sendmail, Postfix, Exim, QMail and ZMailer.

In order to configure ESET Mail Security for bi-directional e-mail messages scanning you have to be sure that your MTA is properly configured and running. Then run this script:

```
esets_setup
```

Select MTA and contentfilter install options. Used *ESETS* module is also displayed.

Note that the installer backups all modified configuration files and can display all commands it will execute after your approval. Use it for uninstall, too. The detailed steps for all possible scenarios are described in the appendix A of this documentation.

5.2. Scanning of inbound e-mail messages

Scanning of the inbound e-mail messages is performed during the messages transfer between MTA and MDA. The incoming e-mail is intercepted by **esets_mda** module, scanned by *ESETS daemon* and delivered to MAILBOX using original MDA. As shown in the figure, the virus

scanning can be enabled by proper configuration setting of MTA and **esets_mda** module. Note that the ESET Mail Security supports most common MTA, i.e. MTA Sendmail, Postfix, Exim, QMail and ZMailer. *ESETS* supports any MDA. In particular the following MDAs were tested: procmail, maildrop, deliver and local.mail.

In order to configure ESET Mail Security for inbound e-mail messages scanning you have to be sure that your MTA is properly configured using original MDA and running. Then run this script:

```
esets_setup
```

Select MDA and inbound install options. Used *ESETS* module is also displayed.

Note that the installer backups all modified configuration files and can display all commands it will execute after your approval. Use it for uninstall, too. The detailed steps for all possible scenarios are described in the appendix A of this documentation.

5.3. Scanning of outbound e-mail messages

Scanning of the outbound e-mail messages is performed during transfer of e-mail messages between the local MUA and the MTA.

In order to configure ESET Mail Security for outbound e-mail messages scanning run this script:

```
esets_setup
```

Select SMTP install option. It will setup **esets_smtp** module to listen on predefined port and redirect applicable IP packets. Check added firewall rule and move it or change according your needs.

Note that the installer backups all modified configuration files and can display all commands it will execute after your approval. Use it for uninstall, too. The detailed steps for all possible scenarios are described in the appendix A of this documentation.

5.4. Scanning of e-mail messages being downloaded from POP3/IMAP server

In order to configure ESET Mail Security for scanning of e-mail messages downloaded from POP3 (resp. IMAP) server run this script:

```
esets_setup
```

Select POP3 or IMAP install option. It will setup displayed *ESETS* module to listen on predefined port and redirect applicable IP packets. Check added firewall rule and move it or change according your needs.

Note that the installer backups all modified configuration files and can display all commands it will execute after your approval. Use it for uninstall, too. The detailed steps for all possible scenarios are described in the appendix A of this documentation.

5.5. Alternative methods of content filtering

5.5.1. Scanning e-mail messages using AMaViS

AMaViS - A Mail Virus Scanner is a tool that interfaces your MTA and several anti-virus scanners. It supports various MTAs and comes in three branches: **amavis**, **amavisd** and **amavisd-new**. Amavis cooperates with ESET Mail Security by using **esets_cli**. Yet before we go into detailed explanation of the Amavis configurations, we would like to discuss the impact of the method on the ESET Mail Security functionality.

First, note that Amavis does not allow modification of the scanned e-mail messages. So no infected e-mail attachments can be cleaned nor deleted by *ESETS*. Second consequence is that no *ESETS* footnote with log and status dependent header fields will be written into the e-mail. Next, amavis doesn't provide mail sender/recipient, so no user specific configurations can be used, too. Advanced mail handling (accept, defer, discard, reject) is also limited for **esets_cli**. Lastly, it scans files and thus cannot use *ESETS* anti-spam engine.

Taking into account these drawbacks, this configuration is usable if only the above discussed features of the product are not necessary for the user.

5.5.1.1. amavis

Configuration of Amavis is performed during the Amavis installation. After unpacking the source amavis-0.x.y.tgz, create the file amavis/av/esets_cli with this contents:

```
#
# ESET Software ESETS Command Line Interface
#
if ($esets_cli) {
    do_log(2,"Using $esets_cli");
    chop($output = `$esets_cli --subdir $TEMPDIR/parts`);
    $errval = retcode($?);
    do_log(2,$output);
}
if ($errval == 0) {
    $scanner_errors = 0;
}
elseif ($errval == 1 || $errval == 2 || $errval == 3) {
    $scanner_errors = 0;
    @virusname = ($output =~ /virus="([^\"]+)/g);
    do_virus();
}
else {
    do_log(0,"Virus scanner failure: $esets_cli (error code: $errval)");
}
}
```

Note that the above script accepts the email only in case it is accepted in **esets_cli**'s Handle Object Policy. In any other case, the mail is blocked. If it a virus was found, it's name is extracted from the output.

Next, if you are using the Linux RSR package, you have to update your PATH environment variable with this command:

```
export PATH="$PATH:/opt/eset/esets/bin"
```

For successful installation you may need to install additional software like arc, unarj, unrar,

zoo. You also have to make a symlink in /usr/bin from uncompress to gzip and create the user amavis in group amavis with home dir /var/amavis. Now continue with the usual installation process (./configure, make, make install) and follow the rules README.mta according your mail server.

5.5.1.2. amavisd

Configuration of Amavisd is performed during the process of Amavisd installation. Unpack the source amavisd-0.x.tgz and follow the rules for amavis described in previous section of this guide. After 'make install' you may need to move '/usr/etc/amavisd.conf' to '/etc' and do a 'make install' again.

5.5.1.3. amavisd-new

In order to install the product with Amavisd-new, unpack and install the source amavisd-new-2.x.y.tgz in your installation directory. Now to configure the product with newly installed Amavisd-new, delete the clause for 'ESET Software *ESETS*' and replace the clause for 'ESET Software *ESETS* - Client/Server Version' in file 'amavisd.conf' with the following one:

```
### http://www.eset.com/
['ESET Software ESETS Command Line Interface',
 '@BINDIR@/esets_cli', '--subdir {}',
 [0], [1, 2, 3], qr/virus="([^\"]+)/ ],
```

You may need to install additional Perl modules Archive-Tar, Archive-Zip, BerkeleyDB, Compress-Zlib, Convert-TNEF, Convert-UUlib, IO-stringy, MailTools, MIME-Base64, MIME-tools, Net-Server and Unix-Syslog from www.cpan.org/modules. The procedure is by each as follows: perl Makefile.PL; make; make install.

After configuration, please follow the recommendation for configuring Amavisd-new in README.mta located in Amavisd-new directory according your mail server.



Chapter 6:

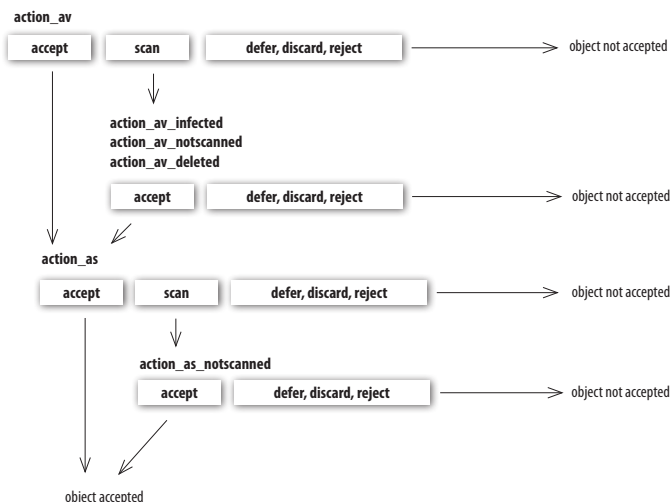
Important ESET Mail Security mechanisms



6.1. Handle Object Policy

The Handle Object Policy (see figure 5-1) is a mechanism that provides handling of the scanned objects depending on their scanning status. The mechanism is based on so-called action configuration options: 'action_av', 'action_av_infected', 'action_av_notscanned', 'action_av_deleted', 'action_as_spam', 'action_as_notscanned'. For detailed information on the options, please refer to the esets.cfg(5) manual page.

Figure 6-1. Scheme of Handle Object Policy mechanism.



Every object processed is at first handled with respect to the setting of the configuration option 'action_av'. Once the option is set to 'accept' (resp. 'defer', 'discard', 'reject') the object is accepted (resp. deferred, discarded, rejected). If the option is set to 'scan' the object is scanned (resp. also cleaned if requested by configuration option 'av_clean_mode') for virus infiltrations and set of action configuration options 'action_av_infected', 'action_av_notscanned' and 'action_av_deleted' is taken into account to evaluate further handling of the object. If action 'accept' has been taken as a result of the three above action options the object processed shall be scanned for spam.

Note that object is scanned for spam only in case the configuration option 'action_as' is set to 'scan'. In this case the action configuration options 'action_as_spam' and 'action_as_notscanned' is taken into account. If action 'accept' (resp. 'defer', 'discard', 'reject') has been taken as a result of the two above action options the object is accepted for further delivery (resp. the object is deferred, discarded or rejected).

NOTE: Please note that some of the modules has been written to integrate ESETS into the environment which does not allow to modify scanned objects and thus this functionality is disabled in the module. Particularly: this means that value configuration option `av_clean_mode` is ignored by the module. To get detailed information on this topic: refer to appropriate modules manual pages.

6.2. User Specific Configuration

User Specific Configuration mechanism is implemented in the product in order to provide administrator with enhanced configuration functionality. It allows to define *ESETS* anti-virus scanner parameters selectively for client/server identification.

Please note that the detailed description of this functionality can be found in *esets.cfg*(5) manual page and manual pages referenced there. Thus in this section we will only provide short example of user specific configuration definition.

Let's say we use **esets_smtp** module as a content filter for MTA Postfix. The module is subjected to configuration section [smtp] in *ESETS configuration file*. The section is as follows:

```
[smtp]
agent_enabled = yes
listen_addr = "localhost"
listen_port = 2526
server_addr = "localhost"
server_port = 2525
action_av = "scan"
```

In order to provide individual parameters setting one has to define 'user_config' parameter with the path to the special configuration file where the individual setting will be stored. In the next example we create reference to the special configuration file 'esets_smtp_spec.cfg' located within the *ESETS configuration directory*.

```
[smtp]
agent_enabled = yes
listen_addr = "localhost"
listen_port = 2526
server_addr = "localhost"
server_port = 2525
action_av = "scan"
user_config = "esets_smtp_spec.cfg"
```

Once special configuration file referenced from within [smtp] section we have to create this file in the *ESETS configuration directory* and provide it with an appropriate individual settings

```
[rcptuser@rcptdomain.com]
action_av = "reject"
```

Note that the section header name of the special section contains identification of the recipient for which we have created the individual setting. The section body then contains individual parameters specified for this identification. Thus with this special configuration all e-mails will be processed, i.e. scanned for infiltrations, with exception of the e-mails sent to rcptuser@rcptdomain.com that will be rejected without scanning.

6.3. Black-list and white-list

In the next example we demonstrate the black-list and also white-list creation for the **esets_smtp** configured as content filter for MTA Postfix. Note that we use configuration described in the previous section for this purpose.

Thus in order to create black-list used by **esets_smtp** we have to create the following group section within the special configuration file 'esets_smtp_spec.cfg' introduced in the previous section.

```
[black-list]
action_av = "reject"
```

The next step is to add some SMTP server into the 'black-list' group. For this purpose we have to create special section

```
[|sndrname1@sndrdomain1.com]
parent_id = "black-list"
```

where 'sndrname1@sndrdomain1.com' is an e-mail address of the sender added into the 'black-list'. Note that with this setting all e-mail sent from this address will be rejected. If we want to create the 'white-list' used by **esets_smtp** we have to create the following group section within the special configuration file 'esets_smtp_spec.cfg' introduced in the previous section.

```
[white-list]
action_av = "accept"
action_as = "accept"
```

Adding of sender's e-mail address into the list is self-explanatory.

Please, note the character '|' placed in front of the header name of the special section in case of sender address and not placed there in case of recipient address. To get description of the special header name syntax, please refer to the appropriate *ESETS* agent module manual page. For an **esets_smtp** please refer to esets_smtp(1) manual page.

6.4. Anti-Spam Control

The goal of anti-spam system is to filter all spam e-mail messages, i.e. the e-mail messages that the recipient users do not want, from data flow of the e-mail messages delivery process.

To get rid of spam, this product implements the anti-spam control mechanism. The anti-spam functionality can be enabled using parameter 'as_enabled' (to get description of the parameter see esets.cfg(5) manual page). Note that anti-spam scanning can be used only for e-mail objects, thus this functionality is relevant only for **esets_imap**, **esets_mda**, **esets_pipe**, **esets_pop3**, **esets_smtp** and **esets_smfi** modules.

Once anti-spam is enabled in any of the configuration sections the anti-spam scanning engine is initialized during the main scanning daemon start-up. During this process an appropriate anti-spam supporting modules are loaded from within the anti-spam cache directory.

It is also possible to configure anti-spam functionality using configuration file:

```
@ETCDIR@/anti-spam/spamcatcher.conf
```

Note the number of files within this directory, each corresponding to different recommended settings of anti-spam engine. Note that the default configuration file corresponds to the configuration file 'spamcatcher.conf.faster'. In order to use any of the files just replace the default anti-spam configuration file 'spamcatcher.conf' with the chosen one and reload *ESETs daemon*.

6.5. Samples Submission System

Samples submission system is an intelligent ThreatSense.NET technology that provides catching of the infected objects found by advanced heuristics method and delivering these objects to the samples submission system server. All virus samples caught by the sample submission system will be processed by the team of ESET virus laboratory department and consequently added into the ESET virus database, if necessary.

NOTE: ACCORDING TO OUR LICENSE AGREEMENT: BY ENABLING SAMPLE SUBMISSION SYSTEM YOU ARE AGREEING TO ALLOW THE COMPUTER AND/OR PLATFORM ON WHICH THE **ESETS_DAEMON** IS INSTALLED TO COLLECT DATA 'WHICH MAY INCLUDE PERSONAL INFORMATION ABOUT YOU AND/OR THE USER OF THE COMPUTER' AND SAMPLES OF NEWLY DETECTED VIRUSES OR OTHER THREATS AND SEND THEM TO OUR VIRUS LAB. THIS FEATURE IS TURNED OFF BY DEFAULT. WE WILL ONLY USE THIS INFORMATION AND DATA TO STUDY THE THREAT AND WILL TAKE REASONABLE STEPS TO PRESERVE THE CONFIDENTIALITY OF SUCH INFORMATION.

In order to turn on Samples Submission System, the samples submission system cache has to be initialized. This can be achieved by enabling configuration option 'samples_enabled' in [global] section of *ESETS configuration file*. In order to enable process of samples delivery to ESET virus laboratory servers it is yet necessary to enable parameter 'samples_send_enabled' in the same section.

User may decide to provide the ESET virus laboratory team with the additional optional information using configuration options 'samples_provider_mail' and/or 'samples_provider_country'. This information will help us to get overview on the infiltration spreading throughout the Internet.

In order to get detailed information on the Samples Submission System, refer to *esets_daemon(8)* manual page.

6.6. World WideWeb Interface

WWW Interface allows user-friendly ESETS configuration, administration and license management.

This module is a separate agent and must be explicitly enabled. For quickstart, set all of these options in *ESETS configuration file* and restart *ESETS daemon*:

```
[wwwi]
agent_enabled = yes
listen_addr = address
listen_port = port
username = name
password = pass
```

(enter all four values as your own ones) and direct your browser to 'https://address:port' (note the *https*) and login with 'name/pass'. There are basic usage instructions on the help page. For more technical details about **esets_wwwi** see the **esets_wwwi(1)** manual page.

6.7. Remote Administration

ESETS supports ESET Remote Administration for management in large computer networks. For more information, please read the Remote Administration Manual.

ESETS Remote Administration Client is part of main ESETS daemon. For basic set up, specify the address of your ERA Server in 'racl_server_addr' parameter (and 'racl_password' if appropriate) in the global section of ESETS configuration file. All RA Client variables are listed in the **esets_daemon(8)** manual page.

Unix ESETS RA Client has this functionality:

- logs in to ERA Server and provides System Information, Configuration, Protection Status and Features
- configuration can be viewed and changed using ESET Configuration Editor and applied with a Configuration Task
- performs On-Demand Scan and Update Now Tasks as requested, with the Scan Logs sent back to ERA Server
- sends notable scans performed by ESETS daemon to the Threat Log
- sends all non-debug messages to the Event Log

It doesn't support:

- Firewall Log
- remote installation

Chapter 7:

ESET Mail Security system update

7.1. ESETS update utility

In order to keep the ESET Mail Security effective, it is necessary to keep its virus signatures database up to date. The `esets_update` utility has been developed for this purpose (see `esets_update(8)` manual page for details). In order to launch update one has to define configuration options `'av_update_username'` and `'av_update_password'` in [global] section of *ESETS configuration file*. Note that in case you access the Internet via HTTP proxy additional configuration options `'proxy_addr'`, `'proxy_port'` and optionally `'proxy_username'` and `'proxy_password'` have to be specified there as well. To trigger an update, enter command:

```
@SBINDIR@/esets_update
```

To provide the highest security for the user, the ESET team collects the virus definitions continuously from all over the world. The new patterns can appear within the database in very short intervals. It is therefore recommended, to trigger an update on a regular basis. Note that ESETS daemon is able to provide the periodic update of the system once `'av_update_period'` configuration option specified in [global] section of *ESETS configuration file* and the daemon is up and running.

7.2. ESETS update process description

The update process is composed of two stages. First, the so called pre-compiled modules are downloaded from the origin ESET server. If configuration option `'av_mirror_enabled'` is enabled in section [global] of ESETS configuration file, the mirror of these modules is created in directory

```
@BASEDIR@/mirror
```

Note that the mirror directory path can be redefined using configuration option `'av_mirror_dir'` in section [update] of ESETS configuration file. The newly created mirror thus serves as fully functional modules download server and can be used to create subordinate mirrors, however, some more conditions have to be fulfilled yet. First, there must be a http server installed on the computer where the modules are going to be downloaded from. Second, the modules to be downloaded by other computers have to be placed at the directory path

```
/http-serv-base-path/eset_upd
```

where `'http-serv-base-path'` is a base http server directory path, as this is the first place where update utility looks the modules for.

Second part of the update process is the compilation of modules loadable by the ESET Mail Security scanner from those stored in the local mirror. Typically the following ESETS loading modules are created: loader module (`em000.dat`), scanner module (`em001.dat`), virus signature database module (`em002.dat`), archives support module (`em003.dat`), advanced heuristics module (`em004.dat`), etc. in the directory:

```
@BASEDIR@
```

Note that it is exactly the directory where ESETS daemon loads modules from and thus can be redefined by using configuration option `'base_dir'` in section [global] of ESETS configuration file.



Chapter 8:

Let us know



Dear user, this guide should have given you a good knowledge about the ESET Mail Security installation, configuration and maintenance. However, writing a documentation is a process that is never finished. There will always be some parts that can be explained better or are not even explained at all. Therefore, in case of bugs or inconsistencies found within this documentation, please report a problem to our support center

<http://www.eset.com/support>

We are looking forward to help you solve any problem concerning the product.



Appendix A. *ESETS* setup process description



A.1. Setting *ESETS* for MTA Postfix

A.1.1. Inbound e-mail messages scanning

Warning: This installation is not compatible with SELinux. Either disable SELinux or follow the next section.

The goal of this installation is to insert **esets_mda** before Postfix original MDA. Used MDA (with arguments) is set in the Postfix parameter 'mailbox_command'.

Note: If the value is empty, Postfix is delivering mail by himself. You have to install and configure a real MDA (e.g. procmail) and use that first for 'mailbox_command' including arguments (e.g. /usr/bin/procmail -d "\$USER"). Reload Postfix and make sure it is delivering mail according your needs. Now, you can continue with ESETS installation.

Take the full path to the current Postfix MDA and set the parameter 'mda_path' in [mda] section of *ESETS configuration file* to this value, in our sample case:

```
mda_path = "/usr/bin/procmail"
```

and restart *ESETS daemon*. Then replace the path to current Postfix MDA with **esets_mda** path and add `--recipient="$RECIPIENT" --sender="$SENDER"` to the arguments, in our sample case:

```
mailbox_command = @BINDIR@/esets_mda -d "$USER"  
-- --recipient="$RECIPIENT" --sender="$SENDER"
```

For reread of newly created configuration, reload Postfix.

A.1.2. Bi-directional e-mail messages scanning

The goal of this installation is to divert all mails from Postfix to **esets_smtp** and get them back. In the [smtp] section of *ESETS configuration file* set these parameters:

```
agent_enabled = yes  
listen_addr = "localhost"  
listen_port = 2526  
server_addr = "localhost"  
server_port = 2525
```

and restart *ESETS daemon*. It will start **esets_smtp** and make it scan all SMTP communication accepted on 'listen_addr:listen_port' and forward it to 'server_addr:server_port'. To divert all mail to **esets_smtp** set in Postfix:

```
content_filter = smtp:[127.0.0.1]:2526
```

Note: In case the 'content_filter' parameter already has a value, don't follow these instructions. Instead, you have to insert esets_smtp (or other ESETS mail scanning module) before or after your current 'content_filter'.

The last thing is to make Postfix accept mail on port 2525 and continue processing it. Add this entry to Postfix master.cf file:

```
localhost:2525 inet  n - n - - smtpd
-o content_filter=
-o myhostname=esets.yourdomain.com
-o local_recipient_maps=
-o relay_recipient_maps=
-o receive_override_options=no_unknown_recipient_checks,no_header_body_checks
-o smtpd_helo_restrictions=
-o smtpd_client_restrictions=
-o smtpd_sender_restrictions=
-o smtpd_recipient_restrictions=permit_mynetworks,reject
-o mynetworks=127.0.0.0/8
```

just replace yourdomain.com with your hostname after first dot. Make sure all but the first line is indented. For reread of newly created configuration, reload Postfix.

Note: In case you have SELinux enabled, which prevents Postfix to listen on 2525 (e.g. Fedora Core >= 5), run this command: `semanage -a -t smtp_port_t -p tcp 2525`

A.2. Setting ESETS for MTA Sendmail

A.2.1. Inbound e-mail messages scanning

Warning: This installation is not compatible with SELinux. Either disable SELinux or follow the next section.

The goal of this installation is to insert **esets_mda** before Sendmail's original MDA.

Note: On FreeBSD, Sendmail may be communicating with MDA using LMTP. However, esets_mda does not understand LMTP. So if you have `FEATURE(local_lmtp)` in ``hostname`.mc`, comment it out now and recreate `sendmail.cf`.

The currently used MDA can be found in the file `sendmail.cf` in section `Mlocal`: parameters `'P'` (executable) and `'A'` (its name and arguments).

First set `'mda_path'` in `[mda]` section of *ESETS configuration file* to the currently used MDA executable (Sendmail's `'P'` parameter) and restart *ESETS daemon*.

Then add to file `sendmail.mc` (or ``hostname`.mc` on FreeBSD and Solaris) before all MAILER definitions these lines:

```
define(`LOCAL_MAILER_PATH', `@BINDIR@/esets_mda')dnl
define(`LOCAL_MAILER_ARGS',
`esets_mda original_arguments -- --sender $f --recipient $u$uj')dnl
```

where `original_arguments` is Sendmail's `'A'` parameter without the name (first word).

In the last, recreate `sendmail.cf` and restart Sendmail.

A.2.2. Bi-directional e-mail messages scanning

The goal of this installation is to scan all mails in Sendmail with **esets_smfi** filter. In the [smfi] section of *ESETS configuration file* set these parameters:

```
agent_enabled = yes
smfi_sock_path = "/var/run/esets_smfi.sock"
```

and restart *ESETS daemon*. Then add to file *sendmail.mc* (or *hostname.mc* on FreeBSD) before all MAILER definitions this line:

```
INPUT_MAIL_FILTER(`esets_smfi',
`S=local:/var/run/esets_smfi.sock, F=T, T=S:2m;R:2m;E:5m') dnl
```

With these settings, Sendmail will communicate with **esets_smfi** via unix socket */var/run/esets_smfi.sock*. Flag *F=T* will result in a temporary fail connection, if the filter is unavailable. Timeouts *S:2m* defines 2 minutes timeout for sending information from MTA to filter, *R:2m* defines 2 minutes timeout for reading reply from the filter and *E:5m* means overall 5 minutes timeout between sending end-of-message to filter and waiting for the final acknowledgment.

Note that in case the timeouts for the **esets_smfi** filter are set too small, Sendmail can temporarily defer the message to the queue and attempt to pass it through later. This may lead to continuous deferral of the same messages. In order to avoid the problem, the timeouts have to be set properly. One can also experiment with the Sendmail's 'confMAX_MESSAGE_SIZE' parameter, which is the maximum accepted message size in bytes. Taking into account this value and the maximum time for processing of this amount of data by MTA (this can be measured), one can evaluate the appropriate timeouts for **esets_smfi** filter.

In the last, recreate *sendmail.cf* and restart Sendmail.

A.3. Setting *ESETS* for MTA Qmail

A.3.1. Inbound e-mail messages scanning

The goal of this installation is to insert **esets_mda** before Qmail's local delivery agent. Let's assume, Qmail is installed in the */var/qmail* directory. In the [mda] section of *ESETS configuration file* set this parameter:

```
mda_path = "/var/qmail/bin/qmail-esets_mda"
```

and restart *ESETS daemon*. Create the file */var/qmail/bin/qmail-esets_mda* with this content and run *chmod a+x* on it:

```
#!/bin/sh
exec qmail-local -- "$USER" "$HOME" "$LOCAL" "" "$EXT" \
"$HOST" "$SENDER" "$1"
```

which will make **esets_mda** call Qmail's local delivery agent. Now create the file */var/qmail/bin/qmail-start.esets* with this content and also run *chmod a+x* on it:

```
#!/bin/sh
A="$1"; shift
```

```
exec qmail-start.orig "|@BINDIR@/esets_mda '$A'"" \
-- --sender="$SENDER" --recipient="$RECIPIENT"" "$@"
```

which will start Qmail using **esets_mda** for local deliveries. However, the original delivery specification is passed to qmail-local through **esets_mda**. Note that in this configuration **esets_mda** will use Qmail's recognized exit codes (see qmail-command(8)). Lastly, replace qmail-start using commands:

```
mv /var/qmail/bin/qmail-start /var/qmail/bin/qmail-start.orig
ln -s qmail-start.esets /var/qmail/bin/qmail-start
```

and restart Qmail.

A.3.2. Bi-directional e-mail messages scanning

The goal of this installation is to insert **esets_mda** before qmail-queue, which queues all mails before delivery. Let's assume Qmail is installed in the /var/qmail directory. In the [mda] section of *ESETS configuration file* set this parameter:

```
mda_path = "/var/qmail/bin/qmail-queue.esets"
```

and restart *ESETS daemon*. Lastly, replace qmail-queue using commands:

```
mv /var/qmail/bin/qmail-queue /var/qmail/bin/qmail-queue.esets
ln -s @BINDIR@/esets_mda /var/qmail/bin/qmail-queue
```

No Qmail restarting is necessary. All messages enqueued from now will be scanned by *ESETS*. Note that in this configuration **esets_mda** will use qmail-queue's exit codes (see qmail-queue(8)).

A.4. Setting *ESETS* for MTA Exim version 3

A.4.1. Inbound e-mail messages scanning

The goal of this installation is to create an Exim transport from **esets_mda** for local users. In the [mda] section of *ESETS configuration file* set this parameter:

```
mda_path = "/usr/sbin/exim"
```

where /usr/sbin/exim is the full path to Exim binary. Then restart *ESETS daemon*. Next, add this transport (at whatever place) to the list of Exim transports:

```
esets_transport:
  driver = pipe
  command = @BINDIR@/esets_mda -oi -oMr esets-scanned $local_part@$domain \
    -- --sender=$sender_address --recipient=$local_part@$domain
  user = mail
```

where mail is one of Exim's 'trusted_users'. Then add this director as first to the list of Exim directors:

```

esets_director:
  driver = smartuser
  condition = "${if eq {$received_protocol}{esets-scanned} {0}{1}}"
  transport = esets_transport
  verify = false

```

which will send all not-yet-scanned mails for local users to **esets_mda**, which will inject them back to Exim for further processing. For reread of newly created configuration, restart Exim.

A.4.2. Bi-directional e-mail messages scanning

The goal of this installation is to create an Exim transport from **esets_mda** for all mails. Perform all steps from the previous section, but also add this router as first to the list of Exim routers:

```

esets_router:
  driver = domainlist
  route_list = "* localhost byname"
  condition = "${if eq {$received_protocol}{esets-scanned} {0}{1}}"
  transport = esets_transport
  verify = false

```

A.5. Setting *ESETS* for MTA Exim version 4

A.5.1. Inbound e-mail messages scanning

The goal of this installation is to create an Exim transport from **esets_mda** for local users. In the [mda] section of *ESETS configuration file* set this parameter:

```
mda_path = "/usr/sbin/exim"
```

where /usr/sbin/exim is the full path to Exim binary. Then restart *ESETS daemon*. Add this router as first to the list of Exim routers:

```

esets_router:
  driver = accept
  domains = +local_domains
  condition = "${if eq {$received_protocol}{esets-scanned} {0}{1}}"
  transport = esets_transport
  verify = false

```

and this transport (at whatever place) to the list of Exim transports:

```

esets_transport:
  driver = pipe
  command = @BINDIR/esets_mda -oi -oMr esets-scanned $local_part@$domain \
    -- --sender=$sender_address --recipient=$local_part@$domain

```

which will send all not-yet-scanned mails for local users to **esets_mda**, which will inject them back to Exim for further processing. For reread of newly created configuration, restart Exim.

A.5.2. Bi-directional e-mail messages scanning

The goal of this installation is to create an Exim transport from **esets_mda** for all mails. Perform all steps from the previous section, but omit this line in `esets_router`:

```
domains = +local_domains
```

A.6. Setting *ESETS* for MTA ZMailer

A.6.1. Inbound e-mail messages scanning

The goal of this installation is to use **esets_mda** as ZMailer's local delivery agent. However, you need to have a real MDA installed, e.g. procmail. In the [mda] section of *ESETS configuration file* set this parameter:

```
mda_path = "/path/to/procmail"
```

and restart *ESETS daemon*. Procmail doesn't support full email address as recipient, so comment out this line in ZMailer's `router.cf` prepending a '#':

```
localdoesdomain=1
```

Next, in the 'local/*' clause of `scheduler.conf` replace your current delivery command with:

```
command="sm -c $channel esets"
```

and append this line to `sm.conf` (replace `your.hostname.com` with your FQDN):

```
esets sSPfIn @BINDIR@/esets_mda esets_mda -a $h -d $u  
-- --sender $g --recipient $u@your.hostname.com
```

Finally restart ZMailer.

A.6.2. Inbound e-mail messages scanning

The goal of this installation is to use **esets_zmfi** as ZMailer's smtp contentfilter. First start *ESETS daemon*. Then add this line to `smtpserver.conf`:

```
PARAM contentfilter @BINDIR@/esets_zmfi
```

and restart ZMailer.

Please note, that this will scan only mails incoming through the `smtpserver`. And make sure that your `smtp-policy` is filtering all mails you want it to.

A.7. Setting *ESETS* for outbound e-mail messages scanning

The outbound e-mail messages scanning is performed using **esets_smtp** daemon. In the [smtp] section of *ESETS configuration file* set these parameters:

```
agent_enabled = yes
listen_addr = "192.168.1.0"
listen_port = 2525
```

where 'listen_addr' is the address of local network interface named *if0*. Then restart *ESETS daemon*. The next step is to redirect all SMTP requests to **esets_smtp**. In case of IP-filtering provided by ipchains administration tool an appropriate rule is:

```
ipchains -A INPUT -p tcp -i if0 --dport 25 -j REDIRECT 2525
```

If IP-filtering mechanism is provided by iptables administration tool, the rule is:

```
iptables -t nat -A PREROUTING -p tcp -i if0 \
--dport 25 -j REDIRECT --to-ports 2525
```

On FreeBSD, the rule is as follows:

```
ipfw add fwd 192.168.1.10,2525 tcp from any to any 25 via if0 in
```

On NetBSD and Solaris:

```
echo 'rdr if0 0.0.0.0/0 port 25 -> 192.168.1.10 \
port 2525 tcp' | ipnat -f -
```

Warning: Your MTA may accept all connections without extensive checking from **esets_smtp** because they are local. By using your own firewall rules, make sure you do not create an open relay, i.e. allow someone from the outside to connect to **esets_smtp** and thus use him as relay SMTP server.

A.8. Setting *ESETS* for scanning of POP3 communication

The POP3 communication scanning is performed using *esets_pop3* daemon. In the [pop3] section of *ESETS configuration file* set these parameters:

```
agent_enabled = yes
listen_addr = "192.168.1.10"
listen_port = 8110
```

where 'listen_addr' is the address of local network interface named *if0*. Then restart *ESETS daemon*. The next step is to redirect all POP3 requests to *esets_pop3*. In case of IP-filtering provided by ipchains administration tool an appropriate rule is:

```
ipchains -A INPUT -p tcp -i if0 --dport 110 -j REDIRECT 8110
```

If IP-filtering mechanism is provided by iptables administration tool, the rule is:

```
iptables -t nat -A PREROUTING -p tcp -i if0 \
--dport 110 -j REDIRECT --to-ports 8110
```

On FreeBSD, the rule is as follows:

```
ipfw add fwd 192.168.1.10,8110 tcp from any to any 110 via if0 in
```

On NetBSD and Solaris:

```
echo 'rdr if0 0.0.0.0/0 port 110 -> 192.168.1.10 \  
port 8110 tcp' | ipnat -f -
```

A.9. Setting *ESETS* for scanning of IMAP communication

The IMAP communication scanning is performed using `esets_imap` daemon. In the `[imap]` section of *ESETS configuration file* set these parameters:

```
agent_enabled = yes  
listen_addr = "192.168.1.10"  
listen_port = 8143
```

where 'listen_addr' is the address of local network interface named *if0*. Then restart *ESETS* daemon. The next step is to redirect all IMAP requests to `esets_imap`. In case of IP-filtering provided by `ipchains` administration tool an appropriate rule is:

```
ipchains -A INPUT -p tcp -i if0 --dport 143 -j REDIRECT 8143
```

If IP-filtering mechanism is provided by `iptables` administration tool, the rule is:

```
iptables -t nat -A PREROUTING -p tcp -i if0 \  
--dport 143 -j REDIRECT --to-ports 8143
```

On FreeBSD, the rule is as follows:

```
ipfw add fwd 192.168.1.10,8143 tcp from any to any 143 via if0 in
```

On NetBSD and Solaris:

```
echo 'rdr if0 0.0.0.0/0 port 143 -> 192.168.1.10 \  
port 8143 tcp' | ipnat -f -
```





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